

# MISSOURI CONSERVATIONIST

VOLUME 81, ISSUE 4, APRIL 2020  
SERVING NATURE & YOU



# INVASIVE

stop  
the  
invasion



## CALLERY "BRADFORD" PEAR

Callery pear trees spread fast, choking out native trees and plants.

Remove and replace pear trees with native species, such as:  
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APRIL 2020  
VOLUME 81, ISSUE 4



Crested coral  
root



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## MISSOURI CONSERVATIONIST



### ON THE COVER

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# Inbox



## Letters to the Editor

Submissions reflect readers' opinions and may be edited for length and clarity. Email [Magazine@mdc.mo.gov](mailto:Magazine@mdc.mo.gov) or write to us:

MISSOURI  
CONSERVATIONIST  
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## FANTASTIC FEBRUARY

You outdid yourselves again. *The Birds and the Bees* [February, Pages 10-27] was fantastic. The content, design, and photography are unequal to any publication in the Midwest.

John Woesthaus  
Belleville, Illinois

## BIRDS AND BEES

The story on urban bee survival was wonderful [*A City Abuzz*, February, Page 12]. And the story about hummingbirds was also excellent [*Hosting Hummingbirds*, February, Page 20]. I have seen lots of them while at our summer home, but never realized that only one species comes to Missouri.

Stephen Wagner via email

The *Conservationist* is always good, but February was out of this world good! Superb!

Patricia Kiesov Aurora

Thank you for the beautiful February issue featuring the birds and the bees. Of particular interest to me was *Hosting Hummingbirds*. I have been feeding hummingbirds for 25-plus years and use at least 300 pounds of sugar every summer. By the end of July and through mid-September, I am feeding 3 gallons of nectar daily from 20 feeders.

This was a great article, but I beg to differ on how often the feeders should be refreshed. I have found that during 90+ degree days, the nectar will spoil in just a couple of days, including feeders in the shade. Even if the weather is cooler, the nectar is not fresh after five to seven days and the hummingbirds will no longer drink it.

Janice Schnurbusch O'Fallon

*Feeders should be refreshed with new sugar water every other day, or every three days at the minimum, during hot weather and weekly during cool weather. To save time, make larger quantities of sugar water (quarts or half-gallons) and refrigerate it until needed. —THE EDITORS*

## INSPIRED ANGLER

Ever since I started getting the *Missouri Conservationist*, I have really liked it. One of my

favorite articles was probably about trout fishing. It inspired me to become a trout fisherman. I'm glad MDC stocks area lakes in St. Louis with trout. Thank you for the *Missouri Conservationist*.

Hunter Heimburger Ballwin

## WELCOME HOME

As a boy growing up in Missouri in the 1960s, I loved reading the *Missouri Conservationist*. I poured over the articles each month, learning about our state's wildlife. By the time I left home for college, I had collected quite a stack of old issues.

Then I moved away. For most of the last 40 years, I've lived in other parts of the country. After I retired, I moved back to Missouri. One of the first things I did was subscribe to the *Missouri Conservationist*.

During those 40 years, most magazines have declined. The ones that didn't go out of business entirely have shrunk in size while filling their pages with advertising. Much to my delight, the *Missouri Conservationist* has not only survived, it has improved! The production qualities have been greatly enhanced, without diminishing the fine writing that I remember from the past. Thank you!

It's good to be back home!

Glen Land Caledonia

## THANKS FOR THE MEMORIES

My 80-year-old father told me that in 1945 a man gave him 3 cents and a postcard. The man said to mail it in and he would begin receiving the magazine. He did just that and is still getting and enjoying the magazine today. He just gave me the February 2020 issue so I could read about the hummingbirds. I have seen the *Conservationist* around the house my whole life and never gave it a second thought. After hearing this story, I couldn't help but think that your magazine, which brought joy to a 6-year-old boy, is still bringing him joy 74 years later. Thank you for always being there for him.

Natalie Healey via email

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Send a note using our online contact form at [mdc.mo.gov/commissioners](http://mdc.mo.gov/commissioners).





### Want to see your photos in the Missouri Conservationist?

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email [Readerphoto@mdc.mo.gov](mailto:Readerphoto@mdc.mo.gov),  
or include the hashtag #mdcdiscovernature  
on your Instagram photos.



1

1 | Fly on  
blackberry bush by  
**Tim VandenHoe**,  
via Flickr

2 | Good weekend  
by **foxylettuce**,  
via Instagram

3 | Marais Temps  
Claire Conservation  
Area by **Bill  
Schnarre**, via email



2



3

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# Up Front

with Sara Parker Pauley

✱ I felt a bit like Dorothy in *The Wizard of Oz* as I boarded the plane recently to head home from the beautiful country of Costa Rica. It had been a magical week of exploring the Cloud Forest of Monteverde, replete with thrilling sightings of the mystical resplendent quetzal and the even more elusive ornate hawk eagle, among other winged beauties. We oohed and awed at volcanoes and waterfalls, howler monkeys, and delicate dancing lady orchids. We tasted amazing fruit in peak season, as well as fresh fish caught hours earlier. It really is a paradise with its turquoise waters and brilliant emerald-green hillsides. How ironic then when one of our Costa Rican nature guides said his life's dream was to see a northern cardinal. Perspective is everything.

Boarding the plane, my heart raced as I thought of heading home to witness the first signs of spring in Missouri. Oh, to hear that first gobble ring out as turkey season approaches or to see the unveiling of spring's brilliant palette as the Missouri woods come alive (see articles on the *Spring Trifecta*, Page 10, and *Missouri Orchids*, Page 16). I wouldn't dare miss a moment of this!

The plane landed in Missouri around midnight. Leaving the airport, I looked up to see the first super moon of 2020, and felt the warmer temperatures compared to just a week earlier. Winter is gone, I thought. Paradise is right here. There's just no place like home.

*Sara Parker Pauley*

**SARA PARKER PAULEY**, DIRECTOR

[SARA.PAULEY@MDC.MO.GOV](mailto:SARA.PAULEY@MDC.MO.GOV)

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[mdc.mo.gov](https://mdc.mo.gov) 3

# Nature LAB

by Bonnie Chasteen

Each month, we highlight research MDC uses to improve fish, forest, and wildlife management.

## RESOURCE SCIENCE

### Conservation Genetics

✳ In the late 1990s, former MDC fisheries researcher Jeff Koppleman discovered that walleye from the Black and Current rivers had genetics different from hatchery walleye with origins in the Great Lakes region.

“Jeff caught a glimpse of something special,” said Leah Berkman, MDC geneticist.

“Black River walleye are different from most other walleye. This means they contribute to the overall diversity of the species.”

When MDC managers need to ensure that a population of fish or wildlife is healthy and diverse enough to withstand the inevitable threats of disease and environmental change, they seek Berkman’s help.

As a resource scientist, she develops a sampling plan and advises on appropriate collection. Then she and her colleagues at the Conservation Genetics Lab in Columbia conduct an amplification-based test. In simple terms, Berkman’s team takes a very small sample of DNA and amplifies it to a large enough sample to study in detail.

Once lab work is complete, analysis begins. “An amplified sample will reveal an animal’s DNA



Genetics technician Chelsea Titus performs the lab work to identify different strains of walleye and uses chemistry that makes DNA light up. Different patterns of DNA fragments (inset) result from different walleye strains.

DNA analysis helps managers ensure the strength of fish and wildlife populations

sequence,” Berkman said. “We can infer many things from this information including its parents and sometimes where it’s from. When we look across individuals, we can judge a population’s genetic diversity and evolutionary health, and thus its ability to withstand environmental changes.”

Berkman is currently helping gauge and ensure the diversity of the state’s growing black bear and elk populations ahead of proposed hunting seasons. “The elk analysis is interesting. We’re trying to see if one bull is siring most of the calves, and whether opening up opportunities for other bulls to breed could strengthen the herd’s genetics,” she said.



MDC staff caught and released this Black River walleye during fish population sampling on the Current River.

### Genetic Analysis at a Glance

#### The Process

1. Develop a sampling plan and work with field staff to collect appropriately
2. Do the lab work
3. Analyze the data
4. Advise the work team



RESEARCH: WALLEYE: NOPPADOL PHOTHONG; DNA FRAGMENT SLIDE: LEAH BERKMAN



# In Brief

News and updates from MDC



## BLUE-RIBBON TROUT SLAM

NEW FISHING PROGRAM PUTS ANGLERS TO THE TEST

➔ MDC has partnered with Trout Unlimited to encourage anglers to pursue a "Blue-Ribbon Trout Slam" from Missouri's nine blue-ribbon trout streams.

"Missouri's blue-ribbon trout streams are areas in the state where trout reproduce naturally," explained MDC Fisheries Programs Specialist Andrew Branson. "The fish are wary of predators, which makes for an authentic and challenging experience for anglers."



### Where to Fish

The Blue-Ribbon Trout Slam honors anglers who catch a trout in at least five of our nine blue-ribbon trout streams:

- Barren Fork Creek in Shannon County
- Blue Springs Creek in Crawford County
- Crane Creek in Lawrence and Stone counties
- Current River in Dent County
- Eleven Point River in Oregon County
- Little Piney Creek in Phelps County
- Mill Creek in Phelps County
- North Fork of the White River in Ozark County
- Spring Creek in Phelps County

### How to Enter

The Blue-Ribbon Trout Slam is divided into three levels:

**Bronze:** Catch a trout from five of the nine blue-ribbon trout areas and receive a certificate and bronze pin.

**Silver:** Catch a trout from seven of the nine blue-ribbon trout areas and receive a certificate and silver pin.

**Gold:** Catch a trout from all 9 blue-ribbon trout areas and receive a certificate, gold pin, and medallion.

All pins and medallions awarded to participants have been provided by Trout Unlimited.

Anglers need to possess a trout permit if they want to keep their trout. Trout of any size will qualify for the Blue-Ribbon Trout Slam, but trout under 18 inches must be released.

Anglers can complete a Blue-Ribbon Trout Slam entry form each time they catch a trout. They may also submit a picture of their trout if they wish, but it is not required.

Once participants accomplish one of the three Trout-Slam levels, we will verify their submissions and mail them their award. Additionally, anglers can have their successes listed on our website.

For more information on the Blue-Ribbon Trout Slam, visit [mdc.mo.gov/troutslam](http://mdc.mo.gov/troutslam).



## "FIRST HOLE" FOR SPECIAL TROUT FISHING AT ROARING RIVER STATE PARK

MDC encourages veterans, children, the elderly, and those with disabilities to discover nature through trout fishing with our award-winning "First Hole" program at Roaring River State Park near Cassville.

"Our Roaring River team helps thousands of new anglers discover nature each year through this special and unique offering," said MDC Roaring River Hatchery Manager Paul Spurgeon.

Participants are taught trout-fishing basics at the first of 33 fishing holes that comprise Roaring River State Park's trout fishing area.

"The 'First Hole' is located immediately below the fish hatchery, so it's an ideal place to fish for first-time anglers because the trout congregate in the pool of water," explained Spurgeon. "The hole also features a ramped fishing pier, making it accessible for a wide variety of anglers. And hatchery staff and volunteers are readily available and eager to teach groups about trout fishing."

The daily trout tag and fishing permits for First Hole Program participants are waived. All equipment, including poles, bait, and nets, are provided free of charge. Participants can work on casting, line tying, baiting, and safe fish handling with the instruction of Roaring River staff and volunteers. Anglers can even keep up to four trout they catch.

Roaring River Fish Hatchery staff have received a Governor's Award for Quality and Productivity for this unique fishing initiative.

For more information on the program, visit [short.mdc.mo.gov/ZWa](http://short.mdc.mo.gov/ZWa).

# Ask MDC

## Got a Question for Ask MDC?

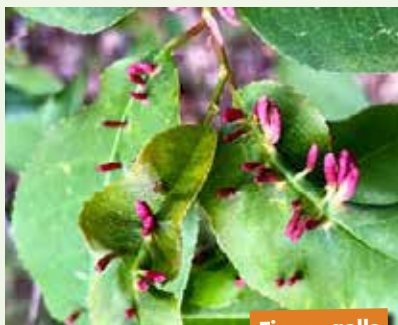
Send it to [AskMDC@mdc.mo.gov](mailto:AskMDC@mdc.mo.gov)  
or call 573-522-4115, ext. 3848.

### Q. I was hiking at Wire Road Conservation Area and I saw these on some tree leaves. What are they?

➔ These red growths, often called finger galls, are common on black cherry leaves. They are caused by a tiny eriophyid mite species, likely *Eriophyes cerasicrumena*, and serve as both a shelter and food source for the mites.

Galls are abnormal swellings or growths of plant tissue. Many types of galls form when insects or mites inject special chemicals into developing leaves or buds. Most gall-making species are highly host-specific, meaning they only produce galls on one or a few closely-related plant species.

Eriophyid mite species commonly cause distinct and often colorful galls on many different trees and plants in Missouri. Look for these interesting galls on maple, elm, black walnut, grape, and even poison ivy. Although leaf galls may look dramatic, healthy plants can often tolerate large populations of galls.



Finger galls



Bird's foot violet

### Q: What is this flower? I noticed it growing along an Ozark trail.

➔ Commonly known as "bird's foot violet," *Viola pedata* features divided leaves that resemble birds' feet. It occurs on rocky, well-drained, usually acidic soils of open woods, road embankments, glades, bluffs, and ridges.

This species is an excellent nectar plant for butterflies and a food plant for some caterpillars, particularly those that metamorphose into fritillaries. Although most yards lack the dry, sunny, gravelly conditions that this wildflower prefers, they do make an attractive addition to a home garden, where you might try them near a pathway.

Watch for their showy blooms through May.

### Q. What is the proper etiquette for photographing bald eagles?

➔ For birdwatchers, few activities are more thrilling than seeing a bald eagle nurture its young or patiently hunt fish in a stream.





Bald eagle

The resurgence of our national symbol has been one of conservation's greatest success stories. However, they are still sensitive to human activity, and too much disturbance can have a negative impact.

Disturbance is defined by any activity that changes an eagle's behavior. For example, if an eagle stops preening to study you, then you have disturbed the eagle in a minor way. Flushing a bird off a nest is considered a major disturbance. For the safest and least-intrusive viewing experience, please follow these guidelines while photographing and observing these raptors:

- Use binoculars, spotting scopes, and telephoto lenses to observe eagles closely.

- Do not chase or follow birds to get a better photo.
- Be particularly considerate during courtship, pair formation, and nest building.
- Do not stand directly under an eagle nest. Stay a minimum of 330 feet from nests and try to use a blind or screen to mask your presence. Vehicles can serve as excellent "bird blinds." Eagles are most alarmed by disturbances they can see.
- Do not make loud or sudden noises. Avoid yelling, car-door slamming, or horn honking.
- Move quickly and quietly to any designated observation areas.
- Never try to make eagles fly or stand up at the nest.
- Keep pets at home.



## Lucas K. McClamroch

BOONE COUNTY  
CONSERVATION AGENT

*offers this month's*

# AGENT ADVICE

With spring in the air, it's a great time to shake off the winter blues and visit your nearest conservation area. If you're in central Missouri or planning a trip to the area, Eagle Bluffs Conservation Area (CA) is a must see. This 4,431-acre area is celebrating its 25th anniversary, and offers recreational activities for all kinds of nature enthusiasts. With the spring migration, birdwatchers will enjoy an influx of birds to the area. Eagle Bluffs has hiking trails and an overlook with a scenic view of the Missouri River. There are plenty of fishing holes and ample opportunities to catch catfish. For more information about Eagle Bluffs CA or to find an area near you, visit [short.mdc.mo.gov/Z4V](http://short.mdc.mo.gov/Z4V).

## What IS it?

Can you  
guess this  
month's  
natural  
wonder?

The answer is on  
Page 9.



## INVASIVE SPECIES

# MISSOURI'S LEAST WANTED

*Invasive nonnative species destroy habitat and compete with native plants and animals.*

*Please do what you can to control invasive species when you landscape, farm, hunt, fish, camp, or explore nature.*



### ✖ CALLERY PEAR

Callery pear (*Pyrus calleryana*) is a deciduous ornamental tree native to China. It is most commonly known as Bradford pear, but also is sold as Aristocrat, Cleveland Select, Autumn Blaze, and Whitehouse. It can quickly grow 30 to 50 feet tall and maintain a nice shape that makes it attractive for manicured landscapes and parking lots.

#### Why It's Bad

Birds and other animals eat the fruits produced by callery pears and distribute the seeds widely. A single tree can spread quickly, forming dense thickets. These thickets leaf out early, outcompeting native flowers and trees. Once escaped from cultivation, wild trees also develop long thorns, making thickets impenetrable.

#### Control

Small trees can be removed by hand, but the entire root must be taken. Medium to larger trees must be cut down and the stumps must be treated. For more information, visit [short.mdc.mo.gov/Zsq](http://short.mdc.mo.gov/Zsq).

#### Alternative Native Plants

- ✓ American plum
- ✓ Yellowwood
- ✓ Eastern redbud
- ✓ Hawthorn
- ✓ Serviceberry
- ✓ Black gum



### ✖ BURNING BUSH

Burning bush (*Euonymus alatus*) is an ornamental native to Russia, Japan, China, and Korea. It is most commonly known as burning bush, but also referred to as winged spindle and winged euonymus. It is sold at nurseries as a landscaping plant and can grow up to 10 feet tall with an even wider spread.

#### Why It's Bad

Birds are attracted to the berries of burning bush and easily distribute the seeds. The seeds become well-established in woodlands, forests, fields, and roadsides where they form dense thickets, outcompeting native plants.

#### Control

Burning bush can be controlled with herbicide application, pulling small seedlings, and repeatedly cutting shrubs to the ground to control resprouts.

#### Alternative Native Perennials

- ✓ Wahoo
- ✓ Black chokeberry
- ✓ Fragrant sumac
- ✓ Smooth sumac



### ✖ SERICEA LESPEDEZA

Sericea lespedeza (*Lespedeza cuneata*) is a warm season perennial legume. Introduced as forage for livestock, wildlife cover, and soil erosion control, it is native to eastern Asia. It can grow 3 to 6 feet tall.

#### Why It's Bad

Sericea lespedeza aggressively invades open areas such as pastures, prairies, and roadsides. It is unpalatable to many animals as it matures. In addition, sericea lespedeza emits a chemical, stunting the growth of nearby plants. Its roots are deep, so in times of drought, sericea lespedeza can outcompete desired vegetation for water and other nutrients. These mechanisms allow it to form dense mats that replace native plants and other forage that are no longer usable by wildlife and livestock.

#### Control

Early detection is key. Once it's detected, pull or spray it. If it's established, an integrated approach — mowing, burning, and spraying — is best. For more information, visit [short.mdc.mo.gov/ZQ8](http://short.mdc.mo.gov/ZQ8).

#### Alternative Native Perennials

- ✓ Slender lespedeza
- ✓ Blue or yellow wild indigo
- ✓ Partridge pea
- ✓ Virginia wild rye
- ✓ Little bluestem
- ✓ Wild senna





## FIND OUTDOOR FUN WITH MO OUTDOORS APP

Spring is in the air, so now is a great time to get outside and discover nature. Looking for places to enjoy outdoor activities in Missouri such as hiking, birdwatching, camping, shooting, fishing, and hiking? We have an app for that.

With our free mobile app — MO Outdoors — users can quickly and easily find outdoor activities close to home, work, or even while traveling. Learn more at [missouriconservation.org/mooutdoors](http://missouriconservation.org/mooutdoors).

MO Outdoors can help users find conservation areas, fishing accesses, hiking trails, shooting ranges, nature centers, and more around the state based on their preferred outdoor activities. Users can also mark "favorite" locations to quickly find them in future searches.

MO Outdoors also connects users to area regulations and season information, hours of operation, images, area closings, and interactive maps of area boundaries and features.

The map function displays features such as parking lots, boat ramps, and wildlife viewing areas, and allows users to easily navigate to the features using their device's GPS. Users can also download maps for offline use.

MO Outdoors is available for download through Google Play for Android devices or the App Store for Apple devices.

## NEW MDC BOOKLETS AVAILABLE

Missouri hunters, trappers, anglers, and others can get free copies of MDC's updated booklets on spring turkey hunting, hunting and trapping, fishing, and the *Wildlife Code of Missouri* starting in early March. The publications are available at MDC regional offices, MDC nature centers, and anywhere permits are sold. The handy booklets have information on related permits, seasons, species, regulations, limits, conservation areas, sunrise and sunset tables, and more.

Get booklet information online at [mdc.mo.gov](http://mdc.mo.gov) using the search tool at the top of the homepage, or using these specific links:

- *Summary of Missouri Hunting and Trapping Regulations* at [short.mdc.mo.gov/ZqJ](http://short.mdc.mo.gov/ZqJ).
- *2020 Spring Turkey Hunting Regulations and Information* at [short.mdc.mo.gov/Ze5](http://short.mdc.mo.gov/Ze5).
- *Summary of Missouri Fishing Regulations* at [short.mdc.mo.gov/Zq3](http://short.mdc.mo.gov/Zq3).
- *Wildlife Code of Missouri* at [short.mdc.mo.gov/ZJ8](http://short.mdc.mo.gov/ZJ8).

## WHAT IS IT?

### OZARK CAVEFISH

The Ozark cavefish is completely blind. Lacking eyes, this small, colorless fish lives most of its life in total darkness in cave streams, springs, and sinkholes in southwest Missouri. It uses sense organs on the sides of its head, body, and tail to find food such as plankton, isopods, amphipods, crayfish, salamander larvae, and bat guano. The Ozark cavefish is listed as endangered by MDC and threatened by the U.S. Fish and Wildlife Service.







For Duane Gill, taking his 7-year-old daughter Marley Gill on hunting trips has been a wonderful way to instill in her a love for nature's beauty.

PHOTOGRAPH BY  
KRISTIE HILGEDICK





# Spring Trifecta

HARVESTING TURKEY, CRAPPIE, AND  
MORELS — IN THE SAME DAY

by Kristie Hilgedick

**H**ow hard is it to harvest a turkey, discover a cache of morels, and catch a mess of crappie — all in one day?

It might seem doable to the casual observer, but experienced hunters and anglers know many complicated variables must fall into place to pull off the “spring trifecta.” This story follows four Missourians — from all walks of life with varying levels of outdoor experience — and their attempts during the spring of 2019 to complete the trifecta.

Far from being simple, it turns out the trifecta is quite a high bar. None of those featured successfully checked all three boxes, and only two reached two of the three goals.

Each of the four went into the experience knowing success wouldn’t be defined solely by ticking items off a list, but also by other important criteria, including enjoying the outdoors, forging friendships, and learning new things.





*Tory Smith*



during the start of the season, listening to them gobble every night at dark, and waking up with the sounds of them in the mornings.”

Smith returned home, where he neatly separated the breast meat from its feathered jacket. While there, he also loaded an aged rowboat and his fishing equipment onto a trailer.

From there, he visited a friend’s house, where Smith suspected he’d find morel mushrooms growing near an intermittent stream. For the better part of an hour, he scanned the ground. Bluebells, trilliums, Dutchman’s breeches, spring beauty, and common violets were plentiful, but mushrooms were elusive. The weather seemed amenable, and the timing was right, but where were they hiding?

“Whoop!” Smith called out after quite a lot of looking. “Hey, come here and look!”

A few tiny mushrooms were growing in some grassy hillocks.

After grabbing a pizza for lunch, he headed to the next spot: Ashland Lake. Edged by bald cypress and teeming with waterfowl, the idyllic Boone County location had a reputation for being well-stocked with crappie.

He certainly made a good-faith effort, but despite casting his line hundreds of times for the better part of an afternoon, no crappie took the bait. Undeterred, Smith made one last stand at Little Dixie Lake, where a bass struck his hook, but no crappie.

A first-timer to the contest, he accepted falling short with grace.

“After getting the turkey, I thought for sure we were going to get it done,” he said. “I’m thankful the weather was exceedingly cooperative, and I learned of two new places to go fishing. I think I will try again next year, in hopes I can redeem myself. It was fun!”

**Tory Smith** enjoys every aspect of the hunt. “From a cardinal perched in a cedar tree to a morning thunderstorm coming over the horizon, I truly enjoy God’s creation,” he said. “It’s not always about the harvest, it’s about the experience and knowledge gained.”

The sky was an inky gray at 5:30 a.m. when **Tory Smith**, 32, arrived at the edge of a farmer’s field (with permission). After unloading his gear, he hiked a quarter-mile or so across a beanfield to a pop-up blind, where he deployed two decoys.

From the blind, Smith, a salesman, watched the sunrise slowly obliterate the Northern Star. The call of a whip-poor-will, the honking of a few geese, and the hum of distant commuter traffic were the only sounds.

After two hours of waiting, four jakes arrived, mobbing his hen decoy. As an experienced hunter, Smith had a tough choice to make. He hoped to harvest a mature tom for this endeavor. Should he take a Jake? Was there still a chance a tom might arrive? He wrestled with the decision for a few minutes, but, ultimately, the lure of meeting the goal won out, and he harvested one of the jakes.

“The feeling of harvesting a turkey is sometimes indescribable,” he later reflected. “The emotions can be different every time because each hunt is unpredictable. I’m so grateful each time I’m able to take a turkey, but the satisfaction comes from time spent finding the area where they like to travel





*Duane and Marley Gill*



Deer hunting is **Duane Gill's** primary passion, but he was game to try the spring trifecta challenge.

Gill, 45, serves as president of the Frederick Douglass Wildlife and Conservation Club of Missouri. Formed in 1947 to offer African-American sportsmen opportunities to hunt and fish, the club owns 100 acres in Lincoln County. The property is nestled along the southwest bank of the Cuivre River and features habitat ideal for wildlife.

Bunk beds and a wood stove keep the hunting cabin cozy. Club members and their families meet to share barbecue, play cards, hunt, fish, and enjoy one another's company.

"I have a lot of amazing memories here," said Gill, a social worker with Confluence Charter Schools.

Rather than staying put in a blind, Gill uses the run-and-gun approach. His first set-up was at the edge of a gravel drive, where he frequently sees wild turkeys. He brought his 7-year-old daughter, Marley, to participate in the fun. Shrouded in camouflage, they sat quietly in the low vegetation, hoping the birds' curiosity would entice them off their roosts toward Gill's calls.

Marley had an excellent grasp of the patience required for a successful hunt, but her dad couldn't resist teasing her a bit. "Being camouflaged is one thing, being still and quiet is another," he joked.

After a moderate amount of waiting, Gill decided to try a different approach. They hiked down a steep bluff past dogwoods in full bloom to a small river bottom dominated by an enormous cottonwood. This time, they crouched in the dappled morning sunlight, leaning against a massive fallen tree trunk. A beautiful location for turkey, but no takers.

The river bottom struck Gill as suitable terrain for morels, and so they devoted the remainder of the morning to that task, and while they saw other mushroom species, morels proved to be elusive.

As noon approached, they set out in a different direction, through stands of oak toward a power line clearing. This time, Gill successfully raised some turkey with his calls, but they were too far away to harvest. He and Marley settled for watching them catch insects in the tall spring grass.

Gill finished the day fishing near a former boat launch along the Cuivre River, but he had to wrap the day up before catching a prize.

For Gill and Marley, the Cuivre River property is a magical place. "Even though it was a blank mission, I always love coming out to the property to be with friends and family."

**Duane Gill — a St. Louisan who frequently organizes hunts for friends and family — is living proof that outdoor sports aren't just for rural Missourians. "Harvesting game is always a thrill, but creating memories that last a lifetime is even more meaningful," he said.**





## Kevin Lohraff

Unlike the other spring trifecta challengers, **Kevin Lohraff**, 56, started his attempt with a more leisurely approach. After a hearty 8 a.m. McDonald's breakfast, the Runge Conservation Nature Center manager headed toward a cow-calf operation on Jefferson City's outskirts (with permission).

"After heading out before dawn for years, I realized I usually harvested my turkeys between 11 a.m. and 1 p.m. anyway," he explained.

Lohraff prefers a ghillie suit and run-and-gun approach. "Blinds are nice, but you're stuck in one spot," he said.

On the way across a pasture, Lohraff caught a glimpse of a scissor-tail flycatcher dashing by. "One of the wonderful things about hunting is you never know what you're going to see," he said.

Blending perfectly into the outline of a tree stump, he waited. Although no turkeys came calling, a curious snapping turtle approached. Throughout the day, he paused to hunt in six places, including a cedar thicket surrounded by pasture. "They are out looking for grasshoppers and spiders," he explained.

Lohraff came closest to success near an ancient, gnarled black oak where he has harvested birds before. He was on the right track: a hen circled him, but no males came close.

Lohraff intermingled his quest for morels with his turkey efforts. "I like to look for morels under ash trees," he said. And that's where he found his first one lurking in the leaf litter. By early afternoon, he tried his luck in the property's small farm pond. The crappie were biting, and it didn't take long for him to pluck a few of the dark, shiny fish out of the water. He ended the day with a visit to his go-to spot for morels if conditions are right, but they weren't.

As luck would have it, Lohraff came across a small grouping of turkeys on his way out of the property, but it was too late in the day to harvest one.

All in all, Lohraff was gratified to have met two of the three goals. "We didn't hit the big three, but we had a great day outside," he said.



The crappie were biting the day Kevin Lohraff attempted the Spring Trifecta, but bagging a turkey proved more elusive.





A self-taught turkey hunter himself, Eric Edwards first began to teach his daughter, Ashley Edwards, how to stalk turkeys when she was 12. "She loved the outdoors from an early age," he said. "And nothing gets your heart racing like hearing a gobbler."



*Ashley Edwards*

Despite the early morning drizzle and cool temperatures, **Ashley Edwards**, 26, was determined to take a run at the spring trifecta with her father, Eric, on the family's Montgomery County property. The former farmstead has been in the Edwards family since 1906, but it is now managed for wildlife.

Ashley, an angler recruitment technician, sat sheltered from the rain in a pop-up blind. After a couple of hours with nary a gobbler, they decided to try another day.

A walk around the property didn't reveal any mushrooms, and the morning weather was too gloomy for fishing.

"That's what makes the spring trifecta a challenge — sometimes the weather doesn't cooperate," said Ashley. "It's not a sure-thing at all." ▲



Kristie Hilgedick is on MDC's communications team. She enjoys hiking, traveling, and spending time with her family.



# MISSOURI *Orchids*

THE SHOW-ME STATE'S NATURALLY  
OCCURRING HIDDEN TREASURES

by Janice Wiese-Fales



**Green adder's mouth**  
*Malaxis unifolia*

**T**hough you may not recall crossing paths with them on your treks into the wild, Missouri is home to more than 30 naturally occurring orchid species.

Orchids grow in specialized settings and bloom at specific times of the year. In some instances, you might not have recognized these plants' diminutive blooms as orchids. For example, the adder's mouth orchid appears in early summer in the Ozarks' acidic soils, and at only 6 inches, is small enough to be easily overlooked. Mosquitoes, gnats, and midges pollinate its petite green blooms.





Yellow lady's slipper

PHOTOGRAPH BY  
JIM RATHERT



**Common ladies' tresses**  
*Spiranthes cernua*



**Vernal ladies' tresses**  
*Spiranthes vernalis*



"Orchids are a jewel in any landscape," said Peter Bernhardt, a professor of biology at St. Louis University, whose research includes pollination and breeding systems of flowers. "They're always going to be kind of rare and an indication of a healthy landscape. Even jaded botanists get excited about them."

In degraded ecosystems, orchids are among the first plants to disappear. Loss of habitat, collection by humans, pesticide and pollution interference, and climate change all play roles in reducing orchid numbers.

## SLIPPERS AND TRESSES

Two of Missouri's most commonly occurring orchids are the spring-blooming yellow lady's slipper and a handful of species in the fall-flowering *Spiranthes* genus, commonly known as ladies' tresses.

"Yellow lady's slipper orchids are very showy and not hard to find," said Malissa Briggler, state botanist for MDC. "They grow in rich, moist woodlands throughout most of the state and flower in late April to early June."

"However, you don't have to be in a pristine wild area to spy an orchid. Some species of ladies' tresses can be found on roadsides," she said, a nod to the species' distribution in a wide variety of habitats throughout the state.

Yellow lady's slipper orchids arguably are the most spectacular of our native orchids because of their blooms — inflated pouchlike lips, or slippers — that can measure up to 6 inches. Each 8- to 28-inch tall plant has a showy, nodding upper sepal and side petals that spiral downward as though styled with a curling iron, both with attractive brown-purple veining. They often grow in clumps of several plants. There also is a smaller variation of the yellow lady's slipper with brown-maroon coloring. Both occur statewide.

**Putty root**  
*Aplectrum hyemale*



**Yellow lady's slipper**  
*Cypripedium calceolus*



**Small white lady's slipper**  
*Cypripedium candidum*





Bill Summers noted in MDC's *Missouri Orchids*, "a colony of lady's slipper orchids in full bloom is a sight to be remembered always." Hidden from above by foliage with a tendency to face downslope, he wrote, they are most easily located by looking upward from the bottom of a slope.

Two additional species of lady's slippers grow in Missouri — the white lady's slipper and the showy lady's slipper with a rose-colored lip. A sighting of either is a rare luxury.

"Ladies' tresses orchids, which occur in open fields where I live, are the most common Missouri orchid," Bernhardt said.

All but one of Missouri's seven species of ladies' tresses orchids bloom in the fall with small white-to-yellowish trumpet-like flowers gracefully spiraling up the plants' 6- to 20-inch stalks. Blooms on the various species are small, ranging from ¼ to 1 inch. Close inspection reveals each to have an ornately hooded and ruffled lip.

## WHAT MAKES AN ORCHID?

One of the largest and most intricately evolved plant families in the world, every orchid has a dorsal and two lateral or side sepals — sort of modified petals. Each also features two side petals and a third known as the labellum, or lip. The latter is highly variable from species to species and nearly always points downward, serving as a landing pad for insect pollinators. Like the human face, orchid blooms have bilateral symmetry — if you draw a line down the flower's center, the two sides perfectly mirror each other.

Orchid reproductive parts — the anther, stigma, and ovary — are housed in a single structure called the column. The male anther produces pollinia, masses of pollen grains that are transferred as a unit. The female stigma is a pollen receptor and the ovary contains unfertilized seeds called ovules.

Every orchid has coevolved with its own distinctive pollinators resulting in intricate reproduction adaptations that often are visually pleasing.

The inflated lip of the lady's slipper orchid serves as a "trap" for treat-seeking bees that become sticky as they struggle to find their way out of the slipper, gathering pollen as they escape.

Missouri's beautiful but rare grass pink orchids are "upside down," with a fiddle-shaped lip at the top. A little tuft of orange-yellow hairs at the base of the lip mimics pollen, attracting bees whose weight forces the hinged lip to swing down, pressing pollen onto the reproductive column. Both native species' blooms are striking — pink, butterfly-like, and up to 2 inches — and occur in late spring in a variety of settings.

Many orchids have a hole at the base of the lip, leading to a tubular spur filled with nectar. Such is the case with Missouri's showy orchis, a purple flowered orchid with a spade-shaped white lip. As the pollinator probes the spur for nectar, pollinia attach to it and are carried to the next orchid. Pollinated by bumblebees, the showy orchis is a woodland species that blooms in early spring.

Orchids produce thousands of dust-like seeds distributed by wind. The minute seeds carry no nutrition for their tiny embryos and rely on fungi found in soil to provide the necessary energy for germination.



**Showy lady's slipper**  
*Cypripedium reginae*

**Grass pink**  
*Calopogon tuberosus*



**Showy orchis**  
*Galearis spectabilis*

This story does not cover every member of the Orchidaceae family that makes itself at home in Missouri. The North American Orchid Conservation Center website is searchable by orchid species and allows for state-specific searches of all native orchids at [goorchids.northamericanorchidcenter.org](http://goorchids.northamericanorchidcenter.org).



“Orchids are a jewel in any landscape. They’re always going to be kind of rare and an indication of a healthy landscape.”

— Peter Bernhardt,  
St. Louis University

Fungi that form these complex and beneficial relationships are known as mycorrhizae. They pass nutrients to the embryo through tiny threads — hyphae — that penetrate the seed. As the embryo grows, it forms a protocorm with fine hairs that take nutrients from the fungus until the plant is ready to begin photosynthesis.

“It’s a difficult procedure to reestablish or transplant orchids because of the delicate mycorrhizal relationship,” said Briggler. “Attempts to relocate them are often unsuccessful. We don’t want to love them to death by moving them from wild habitats to flowerbeds.”

### LOOK! DON'T GATHER

Some orchids never lose reliance on the symbiotic mycorrhizal connection. Such is the case with Missouri’s two coral root species, one that blooms in the spring and one in fall. The crested coral root orchid blooms from July to September. A woodland species with multiple blooms on naked purple, reddish, or yellow 2- to 30-inch stems, these orchids occur in small colonies. The rare crested coral root’s bloom, though small, is quite spectacular with a three-lobed, white and purple lip.



**Crested coral root**  
*Hexaletris spicata*



**Late coral root**  
*Corallorhiza odontorhiza*



**Spring coral root**  
*Corallorhiza wisteriana*



**Eastern prairie fringed**  
*Platanthera leucophaea*



**Western prairie fringed**  
*Platanthera praeclara*



## PRAIRIE FRINGED ORCHID

"We don't track all of Missouri's orchids, but the prairie fringed orchid is federally threatened, so we monitor its progress. We tend to know more about them because of that," said Steve Buback, a natural history biologist with MDC.

Similar in appearance, two species of prairie fringed orchids naturally occur on Missouri's prairies. As prairies diminished, so did the orchids that made their homes there. The eastern prairie fringed orchid was considered extirpated, or totally absent, from the state until it was rediscovered in 2009 growing in a small cemetery on a prairie remnant.

Growing from 1 to 3 feet, both species have numerous creamy white colored flowers with petals that form a hood over the column. The lip of both is deeply fringed, with three distinct lobes and a long thin nectar spur. The western species' flower is larger; both are sweetly scented.

"Prairie fringed orchids have a tenuous life. It might take them three or four years to send up a leaf and five to seven years before they have enough resources to bloom," Buback said.

"We learned of one stand of western prairie fringed orchids from a farmer who had never plowed a portion of his land because he made a bouquet of the orchids that bloomed there for his wife every year, which, oddly enough, led to long-term conservation."

In the early 1990s, Dave Ashley, a now-retired biology professor at Missouri Western State University in St. Joseph, was approached by Dennis Figg, the then-MDC endangered species coordinator, about doing a count of western prairie fringed orchids in the area.

Originally skeptical, Ashley was setting insect traps on prairie lands with students and came across a stand of the orchids.

"I was pretty excited. I contacted Dennis and started monitoring them," Ashley said. "In the beginning, my ultimate goal was to provide information about pollinators."

Hawk moths hover over prairie orchid flowers, probe nectar spurs, and fly away. Ashley and his students tracked flower visitations using fluorescent powders and black lights.

"By directly observing flowers at night and using light traps and pollinator traps, we were able to find 15 to 20 different hawk moth species on the prairies," said Ashley. "We knew how long the moths' proboscises [elongated mouth parts that work like straws] were, and we matched them to the orchid spur length and could eliminate some species as pollinators."

"When the moth extended its proboscis all the way in, it hit its head on the flower and we could see the flower move back and forth. The sticky pollen packets would stick to its head, and it would move to the next flower."

Ashley said that in addition to studying and caring for the prairie where these orchids grow, it is important to remember that larval stages of these pollinators and others are dependent on plant species that grow on the edges of prairies.

"It's not just a matter of maintaining the prairie proper, but the landscape around it."

Ashley said his work with the prairie fringed orchid pollinators and the ability to gather and share information about a



White-lined sphinx moth

species of concern may be as fulfilling as anything he's ever done.

To date, Tom Nagle, retired MDC natural history biologist; Paul McKenzie, retired U.S. Fish and Wildlife Service endangered species coordinator; Buback and Ashley have identified five stands of western prairie fringed orchids.

"I took my wife to the prairie one night to help me monitor pollinator activity," Ashley said. "We set up our lawn chairs and put on our headlamps. At dusk she said, 'What is that sweet smell?' I told her that fringed orchids do not waste their fragrance during the day. They save it for the hawk moths at night."

"Sitting on the prairie in the moonlight and realizing all that is in play is really exciting." ▲

*Janice Wiese-Fales is a freelance writer who lives in Howard County and enjoys camping, hiking, floating, and photographing in Missouri's wild outdoors.*



Purple fringeless  
*Platanthera peramoena*



# MAKE ROOM FOR *Batty*

ATTRACTING BATS  
REQUIRES HABITAT,  
HOUSING, AND PATIENCE

by Larry Archer

**The recipe is simple:** provide the proper food, water, and shelter, and in no time, you'll have a yard full of fluttery, flighty, little friends. Another primer on attracting monarchs? Not this time. Maybe now it's time to reach out to that backyard visitor who doesn't make friends as easily as the poster child for pollinators. Maybe now it's time to make room for batty.

Unlike monarchs — and butterflies and birds in general — bats are burdened with centuries of prejudice, spawned by literature and myths stemming from their nocturnal nature. Like their more generally accepted flying counterparts, bats play an important role in the backyard ecosystem and benefit from many of the same landscaping steps we take to make our backyards more hospitable to other species we enjoy.

## BATS IN YOUR BACKYARD

After accounting for species that haven't been seen in decades or only visit the state on accident, Missouri is home to 16 species of resident bats (See *Bats of Missouri*, Page 27), but most city-dwelling Missourians are likely to encounter only two of these, said MDC Naturalist Shelly Colatskie, a bat biologist.

"In urban areas, you're going to likely see the big brown bat and the eastern red bat," Colatskie said. "Big brown bats are often associated with houses, barns, manmade structures, and hollow trees, but red bats are associated with leaf litter, so they're actually in the leaves of the trees or underneath the leaves on the ground. You can see both of those in urban areas, but one's going to be on your house, versus one is going to be in your trees."



A dual-chamber rocket style bat house welcomes bats to the author's backyard. Patience is required when attempting to attract bats. This house took two years before showing signs of occupancy.





Big brown bat



## NATURE'S INSECT CONTROL

Given their nocturnal nature, most will only see bats right after dusk and right before dawn, and then only in silhouette, so bat viewing in your backyard is limited. What, then, would be the incentive to lure them to set up house on your property? In two words, insect control.

"All of the bats in Missouri and most of the bats in the United States eat insects," Colatskie said. "They really do eat mosquitos, maybe not as many as we hoped, but they do eat mosquitos — and a lot of other crop pests."

According to Bat Conservation International (BCI), an organization dedicated to protecting bats and educating the public about issues bats face, scientists estimate that bats in the United States are worth more than \$3.7 billion a year in reduced crop damage and pesticide use.

## BLOOMS FOR BATS

When building a hospitable backyard habitat for bats, the first step includes adding native plants to your landscape, Colatskie said.

"A lot of people have been planting more native plants to attract more insects for the bats to eat," she said. "Any kind of native plants that attract pollinators — as well as other insect life — is going to help feed the bats."

When adding natives to your yard, make sure to choose plants appropriate for the available sunlight and soil type. Choosing a variety of plants that bloom at different times of the year will ensure that there's always a selection of insects for the bats. The Missouri Prairie Foundation's Grow Native! website ([moprairie.org/GrowNative](http://moprairie.org/GrowNative)) can help with plant selection.



## TREES — DEAD OR ALIVE

While flowering native plants draw the insects on which bats feed, trees — both dead and alive — provide shelter for many bat species, Colatskie said.

"If you have acreage, leaving some dead trees in areas is perfect, not only for other wildlife, but for bats as well," she said. "They love the hollow trees as well as underneath the bark, so leaving dead trees is definitely going to help a wide variety of bat species."

If leaving dead trees, commonly referred to as snags, isn't possible, many species of bats, including the eastern red bat, also roost in live trees.

"A lot of them roost in oak trees because they hold their leaves longer in the winter," she said. "If it's above freezing, they're going to be in the clumps of the leaves in the tree. If it's below freezing, or even if it's below 40 degrees or so, they're going to be under the leaf litter. It's kind of warmer under the leaf litter."

Even after the trees drop their leaves, they still provide shelter for the eastern red bat.

"You don't necessarily have to rake leaf litter all the time, especially if you have an area with a lot of leaves, and that's going to help other animals, too," she said. "The eastern red bat will be under the leaf litter, especially oak leaves."

Planting flowering native plants, like these purple coneflower, attracts the insects that provide the bulk of the bat's diet.

## Bat Facts and Myths

Despite their somewhat mousey appearance, bats are not members of the rodent family.

Missouri's largest native bat is the **HOARY BAT**, which weighs up to 30 grams.

Bats are less likely than most wild mammals to contract rabies. Less than half of one percent of bats have the disease. Experts warn that any bat that is easily approachable is likely sick and should not be approached or handled.







When is a clump of leaves not just a clump of leaves? When it's also providing shelter for a red bat. While most species of bats hibernate in caves over the winter, the red bat winters among the leaves. The red bat's color also means it virtually disappears within the similarly colored leaf litter (inset).

Missouri's smallest native bat, the **EASTERN SMALL-FOOTED MYOTIS**, weighs only 3–4 grams.



**GRAY MYOTIS** can have hibernation colonies of 500,000 and maternity colonies of 200,000.



For more information on bats in Missouri, visit **[short.mdc.mo.gov/ZQR](https://short.mdc.mo.gov/ZQR)**.

Information from and about Bat Conservation International (BCI) is available at **[batcon.org](https://batcon.org)**.



## BAT HOUSE

Unlike the eastern red bat, the big brown bat is more likely to take advantage of a manmade structure, whether it's a home you've built for yourself or one you've built for them.

"The big brown bats really benefit from bat houses in areas that have a high bat population, especially urban areas, like downtown areas," Colatskie said.

The big brown bat can frequently be found in the small gaps of shutters, siding, fascia board, and eaves, and, if given the opportunity, your attic. Providing alternative roosting options is vital if you're evicting bats from your home.

"If you have a really big population of bats in your attic and are removing them, having bat houses on your property is going to be tremendously helpful," she said.

For those without an established population in need of relocation, attracting bats to a bat house is not guaranteed.

"The average person putting up a bat house just to attract them, that's really hit or miss," she said. "You may get one, you may not. It might take several years for them to find it."

There are steps you can take to increase your odds of having bats occupy your houses, including choosing the right type of house, placing it in the right place, and maintaining it.

## CHAMBERS AND ROCKETS

BCI recommends two different types of bat house: multi-chamber houses and rocket boxes.

Multi-chamber bat houses are the most readily recognized design, typically at least 14 inches wide and 20 inches high, but only 2–3 inches deep. The chambers within this roost are  $\frac{3}{4}$ -inch deep, making for the tight squeeze bats seek. They can be mounted on the sides of buildings or back-to-back on poles. BCI recommends against using the similar-looking single-chamber houses or houses smaller than 14 by 20.

The rocket box bat house is exclusively a pole-mounted design with four equal sides of approximately 10 inches and a length of approximately 3 feet. These houses have  $\frac{3}{4}$ -inch inner and outer chambers, which allow the bats to control the temperature inside by huddling together in the inner chamber for warmth or spreading apart in the outer chamber to cool off.

Perhaps more important than the style of the house is the location of the house. Regardless of whether a house is building or pole mounted, BCI recommends that it be placed in an area that gets at least 6–8 hours of direct sunlight daily, 20–30 feet from tree branches or other obstacles, and 12–20 feet above ground.

"It mimics the height and conditions of where they would naturally roost," Colatskie said.

Although bats naturally roost in trees, BCI discourages placing houses in trees. Houses in trees leave bats exposed to predators, including owls and hawks, who perch nearby to snag bats as they leave the house, and snakes and raccoons, who can climb the tree to reach those bats still in the house.

Tree foliage also shades houses, blocking the needed sunlight that keeps the houses warm, and frequently obscures the clear approach needed for take-offs and returns.

Once chosen and installed, bat houses require annual maintenance to make sure the only occupants are the ones you're wanting to attract, Colatskie said.

"During the winter time when bats aren't there, get up there and clean them out," she said. "Clean out the wasp nests; that will really help because they don't like to roost with the wasps."



Location of a bat house, including its height, distance from other trees, and an open flight path, contributes considerably to the likelihood that bats will take up residence.





Big brown bat

## Bats of Missouri

The **eastern red bat** (*Lasiurus borealis*) and **big brown bat** (*Eptesicus fuscus*) are the two most common of Missouri's 16 species of bats.

Of the remaining species, many are threatened or endangered:

- ✕ **Little brown myotis** (*Myotis lucifugus*)
- ✕ **Gray myotis** (*Myotis grisescens*)
- ✕ **Southeastern myotis** (*Myotis austroriparius*)
- ✕ **Northern long-eared myotis** (*Myotis septentrionalis*)
- ✕ **Indiana myotis** (*Myotis sodalis*)
- ✕ **Eastern small-footed myotis** (*Myotis leibii*)
- ✕ **Silver-haired bat** (*Lasionycteris noctivagans*)
- ✕ **Tri-colored bat or eastern pipistrelle** (*Perimyotis subflavus*)
- ✕ **Hoary bat** (*Lasiurus cinereus*)
- ✕ **Seminole bat** (*Lasiurus seminolus*)
- ✕ **Brazilian free-tailed bat** (*Tadarida brasiliensis*)
- ✕ **Evening bat** (*Nycticeius humeralis*)
- ✕ **Ozark big-eared bat** (*Corynorhinus townsendii ingens*)
- ✕ **Rafinesque's big-eared bat** (*Corynorhinus rafinesquii*)

### WIDE OPEN SPACES

Planting natives and providing shelter are steps that can be taken almost anywhere, but those working with larger parcels of land have an additional opportunity to attract bats if they have access to the third essential element — water.

Bats don't perch like birds, so they require water sources larger than the traditional bird-bath, Colatskie said.

"Ponds are excellent for bats," she said. "They actually drink as they're flying."

BCI research suggests that the most successful bat houses are those located within ¼ mile of a pond, lake, stream, or river.

### PATIENCE PAYS OFF

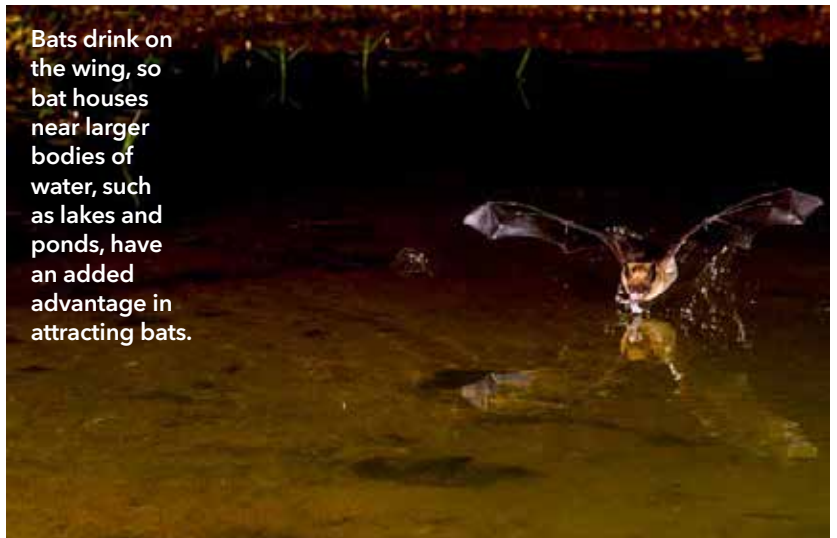
There are no shortcuts in getting bats to take up residence in your bat houses, Colatskie said.

"People say bring guano to the bat house; that's just a myth," she said. "It's going to be completely hit or miss."

Similarly, attempting to catch bats (which is illegal without proper permits generally reserved for conservation and academic research) and introduce them to a bat house is unlikely to be successful, according to the BCI website:

"Catching and relocating bats to new areas is, in any case, highly unlikely to succeed. Bats have strong homing instincts, and once released into a bat house, will attempt to return to their former home area. Consequently, placing bats in a bat house is usually futile and is not recommended. If

Bats drink on the wing, so bat houses near larger bodies of water, such as lakes and ponds, have an added advantage in attracting bats.



a bat house remains unoccupied after two full years, consider repositioning or modifying the house."

Nothing in nature is guaranteed. But with proper placement and plenty of patience, planting natives, and installing bat houses can result in some long-term satisfaction if one's goal is enjoying the dusk and dawn flights of Missouri's native bats, Colatskie said.

"Usually these guys are pretty loyal to their spots, so they'll come back from year to year to year if they find the right spot." ▲

Missouri Conservationist Associate Editor Larry Archer is undergoing a multi-year project of converting his backyard into a nature haven, including an attempt to attract bats. At the end of the second season after installing a bat house, there were finally signs of occupation last fall.



# Get Outside

in APRIL → Ways to connect with nature

## Turkey Time

If the sound of **wild turkeys** gobbling in the distance is calling you to the great outdoors, you are in luck! It's turkey season in Missouri.

Youth season opens April 4–5 and regular season is April 20 through May 10. For spring hunting tips, visit [short.mdc.mo.gov/ZsJ](http://short.mdc.mo.gov/ZsJ).



**Mega Moths** Look for **luna moths** around your porch light. These large, lime-green beauties emerge from their cocoons in spring and fly from early April through August.

### ST. LOUIS REGION

## Family Archery and Atlatl

Tuesday, April 21 • 5:30–7:30 p.m.

August A. Busch Shooting Range  
3350 Hwy. D, Defiance, MO 63341

Registration required. Call 888-283-0364 or register online at [short.mdc.mo.gov/Zs3](http://short.mdc.mo.gov/Zs3) by April 21.

Ages 9 and older

This program will teach the fundamentals of archery and atlatl, including equipment, safety, stance, and shooting techniques. We will begin in the Education Center and then we will move to the static archery range. All equipment will be provided.



### Natural Events to See This Month

Here's what's going on in the natural world.



Peak number of American white pelicans migrate through Missouri



Look for flowering dogwoods



Smallmouth bass begin spawning



SOUTHEAST REGION

## Forest Fest

Saturday, April 25 • 1–4 p.m.

Cape Girardeau Conservation Nature Center  
2289 County Park Drive, Cape Girardeau, MO 63701

No registration required. Call 573-290-5218 for more information.  
All ages

Celebrate the blooming of wildflowers and the young leaves of spring at the nature center. Continuing our "Year of the Tree," we will have an afternoon full of forest fun, with games, activities, tree hikes, and other forest activities perfect for the whole family. There will also be an appearance by everyone's favorite forest bear, Smokey.



## Toad Abode

As you are bringing your clay pots out from their winter hibernation, don't pitch the broken ones. Make a home for a helpful toad!

Turn a chipped clay pot upside down in a shady,

leafy area. Set a clay saucer on top to keep it dark and cool. Toads are a great addition to your garden — they keep populations of insects in balance.



American toad



Copperheads leave winter dens



Most black bears have emerged from their winter dens



## Chanterelle and Polenta Foil Packs

Serves 4

2 cups fresh chanterelles

2 tablespoons butter

Salt and pepper

1 tablespoon olive oil

1 polenta log, purchased

4 sprigs rosemary

Clean chanterelles and tear into bite-size pieces, leaving the very small ones whole. Sauté in butter with salt and pepper to taste for about 4–5 minutes or until liquid is evaporated off.

Cut four 12" x 12" squares of aluminum foil. Lightly oil each piece. Place a slice or two of polenta on foil. Top with chanterelles and a rosemary sprig. Fold up foil and bake over hot coals for about 10 minutes, or a bit longer if you prefer the polenta edges crunchy!

Find this recipe and more in *Missouri's Wild Mushrooms*, an informative guide to the common fungi of the state. Available at [mdcnatureshop.com](http://mdcnatureshop.com) or by calling toll-free **877-521-8632**.

**\$16**

Applicable tax, shipping, and handling costs will apply





# Places to Go

## CENTRAL REGION

### Little Dixie Lake Conservation Area

Casting a line, hiking a trail

by Larry Archer

✧ **Named for the region settled** by southerners following in the footsteps of Daniel Boone, the 733-acre Little Dixie Lake Conservation Area (CA) — with its 205-acre lake — draws anglers, hikers, and birders, said Little Dixie Lake CA Manager Craig Williamson.

“This is a prime time to be out fishing, and there’s excellent fishing out there for black bass and crappie,” said Williamson, a wildlife management biologist.

In addition to the lake’s angling opportunities, the area, located in Callaway County a short drive east of Columbia, also boasts more than 10 miles of hiking trails, he said.

“One of the biggest uses of the area is the trails around the place,” he said. “There’s some excellent trails. There’s handicapped trails — some that are paved — and there’s just excellent trails all around it.”

The trails, combined with a variety of habitats, also make Little Dixie Lake CA a popular place for birders, Williamson said.

“There’ll be a pile of songbirds there without a doubt,” he said. “We’ve got an excellent diversity of habitats. We’ve got some prairies, some old field habitat, and we have some excellent woodlands, so there would be absolutely great diversity of songbirds in the area.”



Little Dixie Lake Conservation Area offers anglers ample opportunities to cast a line. With a trail system that cuts through several habitat varieties, it also gives birders the chance to view numerous species.

NORRADOI PAOTHONG





## LITTLE DIXIE LAKE CONSERVATION AREA

consists of 733 acres in Callaway County.  
From Kingdom City, take I-70 west 10 miles to the  
Route J exit. Take Route J south to Route RA. The  
main Little Dixie Lake CA parking area is off Route  
RA at the junction with Route J in Millersburg.

38.9033, -92.1251

[short.mdc.mo.gov/Zmo](http://short.mdc.mo.gov/Zmo) 573-815-7900

### WHAT TO DO WHEN YOU VISIT

-  **Birdwatching** The eBird list of birds recorded at Little Dixie Lake CA is available at [short.mdc.mo.gov/ZmZ](http://short.mdc.mo.gov/ZmZ).
-  **Camping** Designated campsites available. Open camping (walk-in, backpacking) allowed.
-  **Dog Training** Special-use permit required.
-  **Fishing** Black bass, catfish, crappie, sunfish
-  **Hiking** Boundary Trail (6 miles, hiking and biking allowed); Shoreline Trail (4.5 miles, 22 footbridges, hiking only); Dixie Woods Trail (0.4 miles, ADA accessible asphalt pavement, 1 footbridge).
-  **Hunting Deer and turkey**  
Deer and turkey regulations are subject to annual changes. Please refer to the spring turkey or fall deer and turkey booklets for current regulations.  
Also **quail, rabbit, and squirrel**
-  **Trapping** Special-use permit required.
-  **Waterfowl Hunting** Open hunting. Waterfowl regulations are subject to annual change. Please refer to the *Migratory Bird and Waterfowl Hunting Digest 2020-2021* for current regulations.

### WHAT TO LOOK FOR WHEN YOU VISIT



Red fox



Belted kingfisher



Eastern yellow-bellied  
racer



Double-crested  
cormorant

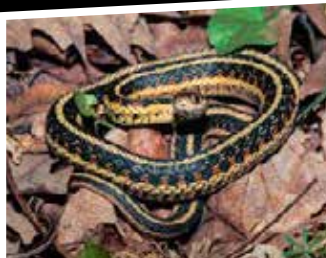




## Eastern Gartersnake *Thamnophis sirtalis*

Status	Size	Distribution
Common	18–26 inches	Eastern half of the state

**E**astern gartersnakes may be blackish, dark brown, greenish, or olive. Usually, they have three yellowish stripes — one down the back and one along each side — and the area in between may have alternating dark spots. Their bellies are yellowish green with two rows of faint black spots that are indistinct, somewhat hidden by the overlapping scales. A harmless snake, but when cornered, gartersnakes will bite to defend themselves.



### Did You Know?

Eastern gartersnakes favor areas near water, such as ponds, marshes, or swamps and damp woods or forested areas along creeks and rivers. They also live in empty lots and old abandoned farms. They are often found under boards, rocks, or other objects in city lots and near farm buildings. In winter, they take shelter in animal burrows or congregate in deep cracks in south-facing limestone bluffs or rocky hillsides.



### LIFE CYCLE

These daytime hunters are active from March through early November, but may be out during mild winters. Courtship and mating occurs in the spring, and females give birth to live young in late summer and early fall. A litter may contain four to 85 young, but averages about 12.



### HUMAN CONNECTIONS

Fear and myth still surround snakes due to a lack of knowledge about them. However, people who know and understand gartersnakes have an appreciation for their contribution to outdoor Missouri.



### FOODS

Eastern gartersnakes eat frogs, tadpoles, toads, salamanders, and earthworms. Occasionally they eat minnows, small mice, and small snakes of other species.



### ECOSYSTEM CONNECTIONS

As predators, gartersnakes keep populations of small animals in check. Although they can defend themselves by biting and smearing foul-smelling musk on attackers, they and their young provide food for many predators.



# Outdoor Calendar

❖ MISSOURI DEPARTMENT OF CONSERVATION ❖

## FISHING

### Black Bass

Impounded waters and non-Ozark streams:  
Open all year

### Bullfrogs, Green Frogs

June 30 at sunset–Oct. 31, 2020

### Nongame Fish Gigging

Impounded Waters, sunrise to sunset:  
Feb. 16–Sept. 14, 2020

### Paddlefish

Statewide:

March 15–April 30, 2020

On the Mississippi River:

March 15–May 15, 2020

Sept. 15–Dec. 15, 2020

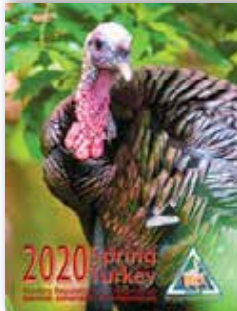
### Trout Parks

Catch-and-Keep:

March 1–Oct. 31, 2020

## Spring Turkey Season

Spring turkey hunting youth weekend is April 4 and 5, with the regular spring season running April 20 through May 10. Find detailed information in the *2020 Spring Turkey Hunting Regulations and Information* booklet, available where permits are sold and online at [short.mdc.mo.gov/ZZf](http://short.mdc.mo.gov/ZZf).



## Free MO Hunting and MO Fishing Apps

MO Hunting makes it easy to buy permits, electronically notch them, and Telecheck your harvest. MO Fishing lets you buy permits, find great places to fish, and ID your catch. Get both in Android or iPhone platforms at [short.mdc.mo.gov/Zi2](http://short.mdc.mo.gov/Zi2).

## HUNTING

### Bullfrogs, Green Frogs

June 30 at sunset–Oct. 31, 2020

### Coyote

Restrictions apply during April, spring turkey season, and firearms deer season.

Open all year

### Crow

Nov. 1, 2020–March 3, 2021

### Deer

Archery:

Sept. 15–Nov. 13, 2020

Nov. 25, 2020–Jan. 15, 2021

Firearms:

- ▶ Early Youth Portion (ages 6–15):  
Oct. 31–Nov. 1, 2020
- ▶ November Portion:  
Nov. 14–24, 2020
- ▶ Late Youth Portion (ages 6–15):  
Nov. 27–29, 2020
- ▶ Antlerless Portion (open areas only):  
Dec. 4–6, 2020
- ▶ Alternative Methods Portion:  
Dec. 26, 2020–Jan. 5, 2021

### Groundhog (woodchuck)

May 11–Dec. 15, 2020

### Pheasant

Youth (ages 6–15):

Oct. 24–25, 2020

Regular:

Nov. 1, 2020–Jan. 15, 2021

### Quail

Youth (ages 6–15):

Oct. 24–25, 2020

Regular:

Nov. 1, 2020–Jan. 15, 2021

### Rabbit

Oct. 1, 2020–Feb. 15, 2021

### Squirrel

May 23, 2020–Feb. 15, 2021

### Turkey

Archery:

Sept. 15–Nov. 13, 2020

Nov. 25, 2020–Jan. 15, 2021

Firearms:

- ▶ Youth (ages 6–15): April 4–5, 2020
- ▶ Spring: April 20–May 10, 2020
- ▶ Fall: Oct. 1–31, 2020

### Waterfowl

See the *Waterfowl Hunting Digest* or visit [short.mdc.mo.gov/ZZx](http://short.mdc.mo.gov/ZZx) for more information.



ILLUSTRATION: MARK RATHIEL

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code of Missouri* at [short.mdc.mo.gov/Zib](http://short.mdc.mo.gov/Zib). Current hunting, trapping, and fishing regulation booklets are available from local permit vendors or online at [short.mdc.mo.gov/ZZf](http://short.mdc.mo.gov/ZZf).





**Follow us  
on Instagram**

@moconservation

Spotted salamanders take advantage of spring's warm, rainy nights, venturing out in search of worms, insects, spiders, and land snails. What will you discover on your next outdoor adventure?

📷 by **Noppadol Paothong**